

## **HEADLAMP FIXING STRUCTURE FOR VEHICLE**

### **CROSS-REFERENCE TO RELATED APPLICATIONS**

**[001]** This application claims priority to Korean Application No. 10-2003-0069160, filed on October 06, 2003, the disclosure of which is incorporated fully herein by reference.

### **FIELD OF THE INVENTION**

**[002]** Generally, the present invention relates to a vehicle headlamp. More particularly, the invention relates to a headlamp fixing structure adapted to fix a periphery of the housing of a headlamp to the vehicle body.

### **BACKGROUND OF THE INVENTION**

**[003]** Generally, a headlamp is installed adjacent to a hood panel of a vehicle. Together these structures form the front appearance of the vehicle. The headlamp is closely mounted to the hood panel with a proper interval therebetween. However, the headlamp is often susceptible to damage in the event of a frontal collision.

### **SUMMARY OF THE INVENTION**

**[004]** An embodiment of the invention provides a headlamp fixing structure for a vehicle adapted to minimize damage to a headlamp resulting from a collision. The structure also facilitates the assembly process and allows for the interval between the headlamp and hood panel to be flexibly adjustable.

**[005]** In a preferred embodiment, the headlamp fixing structure comprises a female bracket integrally formed around a housing of the headlamp and having an insertion groove. A male bracket is fixed at a vehicle body and formed with a supporting protruder inserted into the insertion groove. An insertion fixing means adjusts stepwise and maintains the depth of the supporting protruder inserted into the insertion groove.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

[006] For a better understanding of the nature and objects of the present invention, reference should be made to the following detailed description read in conjunction with the accompanying drawings, in which:

[007] FIG. 1 is a cross-sectional view of an embodiment of the present invention; and

[008] FIG. 2 is a cross-sectional view of an enlarged principle part of an embodiment of the present invention.

## **DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS**

[009] As shown in FIGS. 1 and 2, a headlamp fixing structure for a vehicle comprises a female bracket 5 integrally formed around a housing 1 of a headlamp 2 and having an insertion groove 3. A male bracket 11 fixed at a vehicle body 7 is formed with a supporting protruder 9 inserted into the insertion groove 3. An insertion fixing means adjusts stepwise and maintains the depth of the supporting protruder 9 inserted into the insertion groove 3.

[0010] The insertion fixing means includes a tooth-shaped locking piece 13 and a locking protruder 15. The tooth-shaped locking piece 13 is formed at the insertion groove 3 and the locking protruder 15 is formed at the supporting protruder 9 for being locked by the tooth-shaped locking piece 13. The tooth-shaped locking piece 13 and locking protruder 15 are made from resilient members.

[0011] The tooth-shaped locking piece 13 and locking protruder 15 are formed by bending resilient metal plates, as shown in the drawings, and are installed at the insertion groove 3 and the supporting protruder 9, respectively. However, it is also preferable that only one of either the tooth-shaped locking piece 13 or the locking protruder 15 is independently deformably made as a resilient member while the

remaining one is integrally formed at either the insertion groove 3 or the supporting protruder 9.

[0012] The insertion groove 3 is formed to face the rear of the vehicle, while the supporting protruder 9 is formed to face the front of the vehicle. A buffering space 17 is formed between the inner side of the insertion groove 3 and the front end of the supporting protruder 9. A buffering gap 19 is formed between the female bracket 5 and the male bracket 11.

[0013] Once the headlamp 2 is mounted onto the vehicle body 7 with the buffering space 17 and buffering gap 19, the buffering space 17 and buffering gap 19 can absorb a light frontal collision by shifting the location of the locking protruder 15 locked by the tooth-shaped locking piece 13. Thereby, minimizing damage to the headlamp 2 and the fixing part between the headlamp 2 and the vehicle body 7.

[0014] Securing the headlamp 2 to the vehicle body 7 will now be described. After the male bracket 11 is fixed by a bolt 23 to the vehicle body 7, the insertion groove 3 of the female bracket 5 is inserted into the supporting protruder 9 of the male bracket 11. Simultaneously, a clip 25, integrally formed at the bottom of the housing 1, as shown in FIG. 1, is pushed into a retainer 27 embedded inside the vehicle body 7. The fixed state of the headlamp 2 to the vehicle body 7 can be varied according to the location of the locking protruder 15 locked by the tooth-shaped locking piece 13. Accordingly, the inserted depth of the supporting protruder 9 into the insertion groove 3 is adjusted by the locking protruder 15 locked stepwise by the tooth-shaped locking piece 13.

[0015] The fixed state of the headlamp 2 to the vehicle body 7 is variable, according to the state of a hood panel 21. The interval formed between the hood panel 21 and the headlamp 2 can easily be adjusted.

**[0016]** As apparent from the foregoing, there is an advantage in the headlamp fixing structure for a vehicle according to the present invention in that the structure is adapted with a buffering space, buffering gap, locking protruder, and tooth-shaped locking piece to minimize damage to the headlamp in the event of a vehicle collision. Another advantage is that the structure facilitates the assembly process and provides flexibility in adjusting the interval formed between the headlamp and hood panel.